

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0004] with the following amended paragraph:

[0004] U.S. patent application Ser. No. _____ (~~attorney docket number 40541-1838~~), filed _____ 6,953,026 issued October 11, 2005 describes a pressure regulating valve for use in a mechanical returnless fuel system. Valve is a relatively less expensive design and produces a fuel pressure that is not constant, but rather is linearly proportional to the fuel flow rate.

Please replace paragraph [0012] with the following amended paragraph:

[0012] Fuel system 10 also includes a pressure regulating valve 22 that is coupled to fuel line 20 within tank 16 and returns a portion of the pumped fuel to the fuel supply through return line 28. A preferred pressure regulating valve is described in U.S. patent application Ser. No. _____ (~~attorney docket number 40541-1838~~), filed _____ 6,953,026 issued October 11, 2005, incorporated herein by reference. The preferred valve comprises a frustoconical valve body that is biased by a coil spring against a valve seat in the closed position. The valve body slides in response to increased fuel pressure within the fuel line to contract the coil spring and space the valve body apart from the valve seat, thereby opening the valve for fluid flow through return line 28. It is a feature that the pressure regulating valve produces a fuel pressure in fuel line 20 that varies as a function of fuel flow to the engine. Referring to FIG. 2, there is depicted a graph showing fuel pressure P in the fuel line as a function of engine fuel flow rate Q. The engine fuel flow rate Q corresponds to the engine fuel usage, which is also referred to as actual engine fuel demand, and is equal to the output of fuel pump 14 minus the portion of fuel returned to the fuel supply through pressure regulating valve 26. Line 70 shows a relationship wherein fuel line pressure P increases in direct proportion to engine fuel flow rate Q which may be provided by a pressure regulating valve suitable for use with this invention. For purposes of

(10/687,385)

BEST AVAILABLE COPY

comparison, line 72 represents an idealized situation that provides a substantially constant pressure independent of fuel flow rate, such as is provided by a diaphragm-type pressure regulator in a conventional mechanical returnless fuel system. Thus, there is a significant discrepancy between the actual fuel line pressure, as shown for line 70, and a theoretical constant pressure, such as might be provided by line 70, particularly at relatively low or high fuel flow rates. As a result, a controller calculating injector opening times based upon an arbitrary constant fuel pressure may calculate an opening time that delivers a quantity of fuel that deviates significantly from the desired controlled quantity.

(10/687,385)

3